

REMARKS/ARGUMENTS

In the Office Action, the Examiner allowed claims 8-12 if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, for claim 10, and the drawing rejections, set forth in the Office Action; objected to the drawings under 37 C.F.R. 1.83(a); rejected claims 2 and 10 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; and rejected claims 1-7, 15-19, 25 and 27 under 35 U.S.C. 103(a) as being unpatentable over Kawakami et al. (US patent No. 5,847,326) in view of Kumagai et al. (US Patent No. 5,043,223). The rejections are fully traversed below. Reconsideration of the application is respectfully requested based on the following remarks.

Claims 1, 2, 8, 10 and 15 have been amended to further clarify the subject matter regarded as the invention. Accordingly, claims 1-12, 14-19 and 25-27 remain pending in this application.

OBJECTIONS TO THE DRAWINGS

It is respectfully submitted that the drawings are in compliance with 37 C.F.R. 183(a). Specifically, the “plurality of ceramic layers” is shown in the submitted drawings (e.g., FIG. 1) and the “electronic component embedded within the plurality of ceramic layers” has been removed from the claim language. Therefore, it is submitted that the Examiner’s objections to the drawings have been fully addressed and the drawing are in condition for acceptance.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 2 and 10 have been amended to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, claims 2 and 10 have been respectively amended to recite “...wherein the barrier cap is configured to prevent the first electrically conductive material within the through-hole from making contact with the second electrically conductive material forming the contact pad” and “wherein the barrier cap is configured to prevent the first electrically conductive material within the through-hole from chemically reacting with the second electrically conductive material forming the contact pad.” That is, claims 2 and 10 provide additional structural limitation to the recited barrier cap of claims 1 and 8 respectively since the barrier cap is configured (e.g., sized; shaped; positioned;

etc.) in such a way as to prevent the first electrically conductive material within the through-hole from (making contact)/(chemically reacting) with the second electrically conductive material forming the contact pad. Therefore, Applicant respectfully submits that claims 2 and 10 are in compliance with 35 U.S.C. § 112, second paragraph.

REJECTIONS UNDER 35 U.S.C. 103(a)

As amended, claim 1 requires among other things that “a barrier cap formed in contact with and between the catch pad and the contact pad such that the barrier cap is encapsulated within the first ceramic layer”. (Support for the amendment may be found on FIG. 2A) In contrast, neither Kawakami et al. nor Kumagai et al., alone or in combination, teach or suggest the features of the claimed invention. Instead, Kawakami et al. merely discloses wiring patterns 15 and intermediate layers 16 on the surfaces of a substrate layer 12 and not encapsulated within any one of the substrate layers 12. Similarly, Kumagai et al. merely discloses conductive layers 3 only on the surfaces of a substrate layer 1. (See Fig.1a) Therefore, it is submitted that claim 1 is patentably distinct from the cited references and not obvious.

As amended, claim 15 requires among other things that “the dielectric ring does not cover any other contact pad.” In other words, the dielectric ring is confined to a single contact pad. In contrast, Kawakami et al. only discloses an overcoat glass layer 22 that covers two Ag surface layer wiring conductors 20. (See FIG. 1) Similarly, Kumagai et al. only discloses an overcoat glass 6 formed on two top conductive layers 4. (See column 8, lines 60-63; Fig. 1a) Therefore, it is submitted that claim 15 is patentably distinct from the cited references and not obvious.

The Examiner’s rejections of the dependent claims are respectfully traversed. However, to expedite prosecution, all of these claims will not be argued separately. Claims 2-7, 16-19, 25 and 27 each depend either directly or indirectly from independent claims 1 or 15 and, therefore, are respectfully submitted to be patentable over cited art for at least the reasons set forth above with respect to claims 1 or 15. Further, the dependent claims require additional elements that when considered in context of the claimed inventions further patentably distinguish the invention from the cited art.

ALLOWABLE SUBJECT MATTER

It is respectfully submitted that claim 8 is in condition for allowance since claim 10 has been rewritten to overcome the rejection under 35 U.S.C. 112, second paragraph and the drawing rejections have been appropriately addressed above. It is also respectfully submitted that claims 9-12, 14 and 26 are allowable since they depend directly or indirectly from claim 8.

SUMMARY

It is respectfully submitted that all pending claims are allowable and that this case is now in condition for allowance. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

If any fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from the undersigned's Deposit Account No. 50-0388 (Order No. **NSC1P202**).

Respectfully submitted,
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